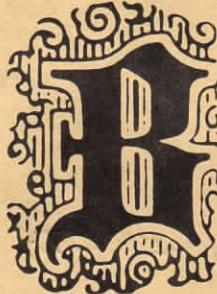


GUARANTEE

This clock has been carefully manufactured by experienced workmen using only the very finest of materials. The movement has been subjected to rigorous tests. Your Barwick Clock is guaranteed against factory defects in workmanship and materials for a period of one year from the date of purchase. Obvious abuse, misuse, shipping damages and minor adjustments as outlined in this owner's manual are excepted.

Notify the Howard Miller Clock Company, Attention: Service Department or authorized service station of any defect or malfunction. Repair or replacement of defective parts will be made by the factory or its authorized service station at its option to the original purchaser during the guarantee period. Transportation charges to be paid by you. Warranty is void if any repairs are made locally without prior authorization, except by authorized service station.



**BARWICK
CLOCKS®**

Division of

HOWARD MILLER CLOCK COMPANY
Zeeland, Michigan 49464

X

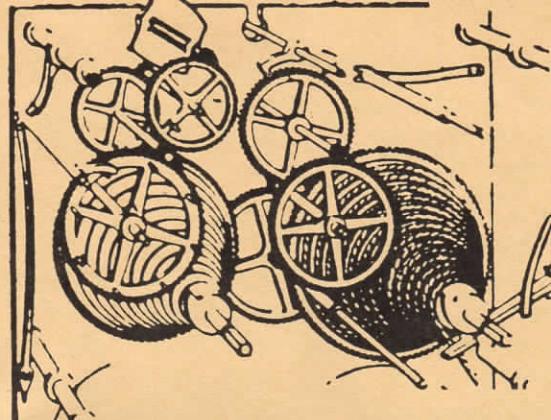
TIME

AND YOUR

BARWICK.®

CLOCK





MAN AND MOON TIME

Man learned to measure time long before he was fully civilized. He noted the movement of heavenly bodies and devised the moon-month as a rough measure of time. Eventually he utilized the simplest elements around him to construct time-telling devices — sun, fire, water and sand.

The pivoting shadow of the first stick upright in the sunlight gave man impetus for his first sundial. The Chinese turned to fire using a dampened, knotted rope which burned slowly from knot to knot. They as well as the Greeks and Romans told time by not-too-reliable water devices. Water dripping from a pierced container gave us the clepsydra, a water clock, meaning in Greek "water thief". Gradual improvements led to hydraulic (which also means water in Greek) mechanisms as early as 135 B. C. The use of sand funnelled through a small aperture gave us the hourglass, a most popular early means of measuring time in arid lands where water was a precious commodity.

Generally speaking, these devices gave way before the mechanical clock, for which the first drawings and specifications are still existent. A 500-pound weight attached to a clock of iron was constructed by Henry DeVick for King Charles the Wise in 1360 and installed in a tower of the Royal Palace in Paris which later became the Palais de Justice. Although it would err by

as much as two hours in 24, DeVick's clock was the model for tower clocks as late as 1892 and these massive timepieces can still be found in almost every large European city.

A swinging lamp, a pulse beat and one of the greatest scientific minds was responsible for the development of the pendulum. Three centuries after DeVick, a lamp swinging as he took his own pulse was believed to have put Galileo (1564-1649) on the path of the pendulum in 1583. In less than 150 years, with the ingenuity of several clockmakers and inventors, the pendulum clock acquired such remarkable accuracy that the minute and second hand became not unusual parts.

Grandfather Clocks were originally called "Long Case" Clocks. Like other accurate early clocks they were powered by weights rather than mainsprings, and the movement was regulated by a pendulum. The weights and pendulum require a great deal of vertical space. So the original reason for the "long case" was to accommodate these important works and protect them from dust. The dignified Grandfather look that resulted was an accidental benefit. It was an important one indeed because it helped to create some of the most beautiful and valuable furniture ever made.

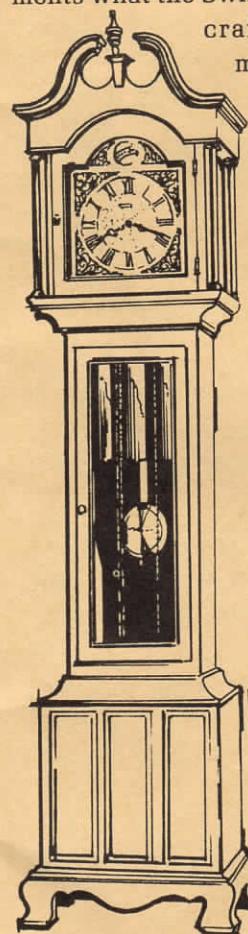
For many years the long case clock (the Grandfather name was popularized in 1857 when the song entitled "Grandfather's Clock" became a hit) was the only really accurate clock available. Each was completely hand made by a skilled clock maker who started with nothing more than his hand tools and raw materials. Because construction of one of these clocks took months they were quite costly and only the wealthiest of families could afford them. That is why the ownership of a Grandfather Clock was a supreme status symbol. And to this day a Grandfather Clock reflects a home of good taste and quality.

THE BARWICK CHRONOLOGY

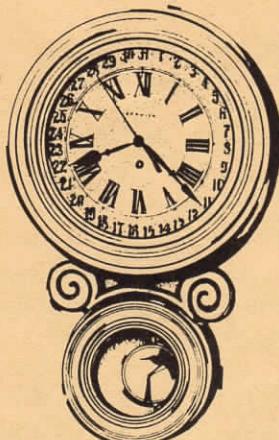
The history of your Barwick Clock dates back to the early 1900s, when the Howard Miller Clock Company was founded to manufacture the finest in chiming clocks. The founding family began a tradition of quality that has been uncompromised through three generations.

All Barwick Floor Clock movements and most wall clock movements come from the Black Forest of Western Germany. The Germans are to fine quality clock movements what the Swiss are to watch movements. German

craftsmen have been making clock movements there since the 17th Century. And, today as in years past, their skill is legend. In the Black Forest, every Barwick Floor Clock movement is assembled by hand. Each movement is tested and calibrated for two weeks before it is approved for use in a Barwick Clock. But, even this is not enough, after the movement is installed it is again thoroughly tested for a number of days before it is permitted to be shipped out to a customer.



#4875W "THE PRINCE".
H. 77 3/4" available with West-
minster Chime movement with
"Tempus Fugit" Roman dial
or triple chime moving moon
phase Arabic dial. Choose one
of four popular finishes.

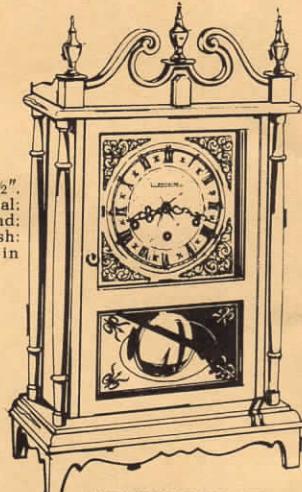


#4926 CALENDAR WALL CLOCK. H. 23", W. 14 1/2". D. 4 1/2". Black numerals on antique white dial; black hour and minute hands, red calendar hand; convex crystal; brass pendulum. Specify finish: Maple case in Nutmeg finish. Maple case in distressed Americana finish.

The cabinet work for Barwick Clocks is done to standards second to none. You can see this craftsmanship in the cabinetry of each clock, the accuracy of assembly in tight cabinet joints, and even more important the quality that you cannot see such as the braces and supports engineered into each case or the fact that over one half gross of screws is used in each floor clock case. Each case is sanded a minimum of four times during its manufacture — the last two times completely by hand.

No two clocks are ever identical. Each piece of wood has a character all its own, that Barwick Craftsmen strive to enhance. As a result, each clock has a personality of its own.

We register and personalize each clock. Inside the door of each Barwick grandfather clock are two permanent solid brass plates. One is engraved with the individual registration number of the clock while the other is engraved with the name and date of purchase of the original owner. Your children and grandchildren will always know the history of this clock because of its registry and personalization. And, with each generation it will grow more valuable.



#4993 ELI TERRY MANTEL CLOCK. H. 22 1/2". Solid brass trim, triple chime key wind pendulum movement. Available in Cherry case with Bordeaux finish or Pine case in Briar finish.

FLOOR CLOCK SET UP

#150 & #160 Westminster Chime Weight Driven Movement

STEP #1

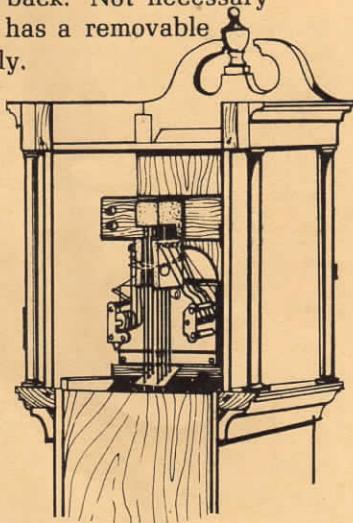


Place clock in location it is to occupy. Adjust the four levelers at the bottom of the case with the use of a level to be sure that the clock is in a good level position. Level the clock both front to back and side to side.

Move clock one half turn from permanent location permitting access to front and back. Not necessary if your clock has a removable head assembly.

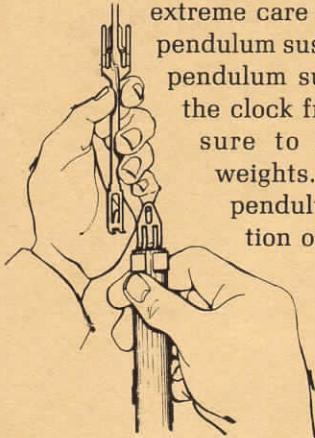
STEP #2

Open upper back panel using extreme care to avoid damage to mechanism. If your clock has a removable head assembly, remove the head by releasing the four plastic wing catches on the back of the head section. Slide the head forward, tilting head bottom up slightly and lifting it over the dial frame. Remove protective cushioning from between hammers and chime rods. Remove ring at end of each cord from pins inside clock case. Release pendulum guide clipped to back of movement. Remove chime rod packing by pushing down and sliding off rods.



Cut tape, remove chains from bag and allow the chains to hang freely being careful not to dislodge the chains from drive sprocket wheels.

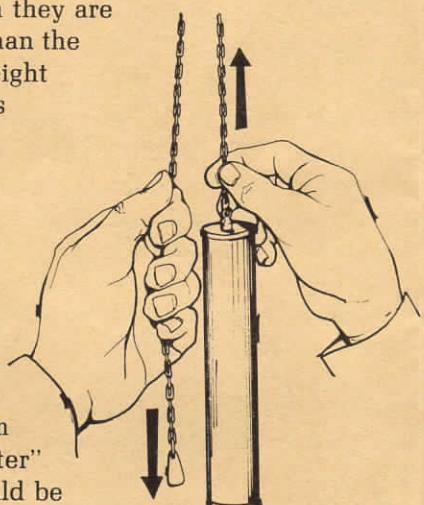
STEP #3 Place pendulum on hook at bottom of pendulum suspension hanger. Do this with extreme care so as not to bend or break the pendulum suspension spring at the top of the pendulum suspension hanger. If you move the clock from one position to another be sure to remove the pendulum and weights. Do not move the clock with pendulum in place. Refer to illustration of suspension spring.



STEP #4 Remove the three weights from the carton in which they are packed. One is heavier than the other two, hang this weight on the right hand chain as you face the clock from the front. Hang the other two weights on the remaining two chains. Clocks equipped with #160, 170, 180 or 190 movements are furnished with weights marked on the bottom "Left", "Right", and "Center" indicating how they should be hung as you face the clock from the front.

Raise weights to the highest position by guiding the hook at the top of each weight up with one hand and pulling on the chain simultaneously with the other hand to remove excess strain from the clock movement. Take care not to handle brass weights more than necessary with bare hands as body acid will eventually cause the brass to tarnish. Then gently swing the pendulum to start clock.

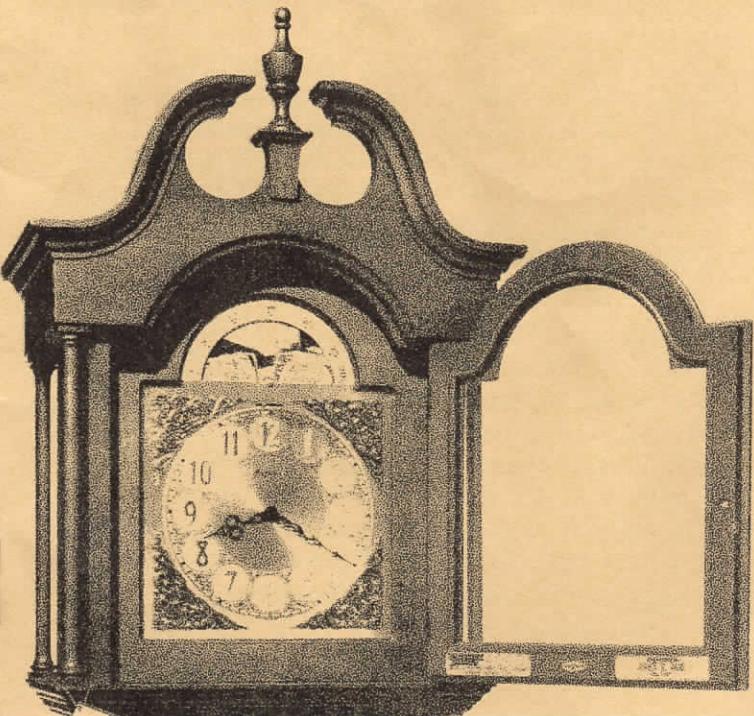
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#155, #170, #180 and #190 WESTMINSTER CHIME WEIGHT DRIVEN MOVEMENTS

On clocks using these dial-movement combinations follow same instructions as for the #150 movement. The only variation is that these clocks have a moving moon phase dial. This dial is traditionally found in better floor clocks and indicates the position of the moon throughout the month.

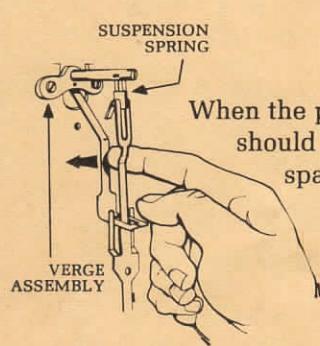
To set moon dial, apply slight pressure with hand to front of dial and rotate the disc clockwise until the center of the moon face is below the #15 of the moon arch. On a calendar look up the date of the last full moon. Count the number of days from that date to current date. Rotate the moon disc clockwise the same number of clicks as the number of days from the last full moon to the current date. (One click represents one 24 hour period.) The moon dial is now set and will indicate the proper moon phases as long as the clock operates continuously. If the clock stops the moon dial must be reset when clock is started again.



MAINTENANCE AND ADJUSTMENT SUGGESTIONS

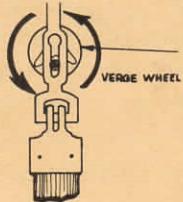
A floor clock is surprisingly simple mechanism and there are very few potential problems associated with it. Those few problems that may be encountered are most often the result of human error rather than the mechanism. Our experience has been that these problems can be very simply corrected by the owner of the clock by reading the following suggestions.

PENDULUM BEAT ADJUSTMENT



When the pendulum is swinging the clock should tick evenly with a regularly spaced sound. If pendulum swings unevenly or stops the clock may be out of beat. If this is the case the pendulum suspension crutch (see illustration) must be gently pushed to the right or left until the ticking becomes even. Please note that the pendulum should be removed before making this adjustment. If pendulum suspension crutch appears to swing more unevenly after adjustment, push suspension crutch gently in opposite direction. You may have to adjust this suspension crutch several times before getting it back in beat.

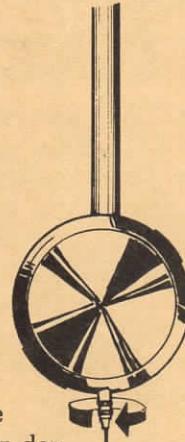
Movements #160, 170, 180 and 190 should be adjusted as follows: Rotate the verge adjusting wheel (located on the pendulum hanger just above the pendulum hook) in either direction until you hear an even "tick tock" (see illustration) indicating movement is in beat. The verge adjusting wheel is purposely tight, but it can be turned. If a further adjustment is necessary move pendulum crutch to right or left until proper



beat is attained. This is a trial and error adjustment which when properly made will be permanent. Replace pendulum.

TIME REGULATION

The pendulum disk on your Barwick Clock is the time regulator. If the clock is running too fast it means that this disc must be moved down, or vice versa if the clock is running slowly. To make the clock run faster turn the pendulum adjusting nut to the right raising the pendulum disc. To make the clock run slower turn the nut to the left, lowering the disk. One complete turn of this nut changes the time keeping approximately two minutes per day.



It is the pendulum disk rather than the nut that calibrates the time keeping. When the nut is turned down the pendulum disk must be slid down so it rests directly on top of the nut. When the nut is turned up, it must be turned up enough so that it forces the pendulum disk up.

SETTING OF HANDS

To set the proper time on your clock always rotate the minute hand backward. The movement is designed so that the chimes are self correcting and will synchronize with the position of the hands as long as the clock is set backwards. Please allow 24 hours for the chimes to synchronize themselves after setting the clock. If the clock is set forward the hands and chimes may get out of synchronization, and will not be self correcting.

HANDS AND CHIME SYNCHRONIZATION

If after several days the chimes and time are not synchronized wait until the next time the hours are chimed. Then set the hour hand at the hour marker indicated by the number of times the chimes were struck. The hour hand is a pressure fit so that rotating this hand independently will not damage the clock if it is done carefully. Finally, turn the minute hand counter clockwise until the proper time is set.

PENDULUM CLEARANCE

If the pendulum hits the sides of the case, first check to determine if the clock is exactly level. If the clock is slightly out of level there will be less clearance on one side than on the other.

If leveling of the clock does not correct this problem, the arc of the pendulum swing can be reduced by raising the verge assembly. (See illustration). A very minute adjustment of this verge assembly is all that is necessary. Place a pencil mark just above each screw on the movement plate. Loosen each of these screws slightly and move this assembly up just enough to cover this pencil mark. Moving this verge assembly up as little as 1/100 of an inch will result in a substantial reduction in the pendulum arc. Take particular care that each side is raised equally so that this verge remains completely horizontal.

SUSPENSION SPRING REPLACEMENT

If the clock is jarred the suspension spring supporting the pendulum may be bent or broken. Replacement suspension springs are available by sending \$.75 to the Howard Miller Clock Company and indicating the model of your clock.

Depending on the model of your clock, remove the thumb screw or pin holding the suspension spring in place, remove defective suspension spring, slip new spring in place with pendulum suspension hanger attached and replace screw or pin. If the suspension spring of your clock is held in place with a pin, use a needle nose pliers for removal and replacement.

If the suspension spring of your clock is held in place with a brass thumb screw, tighten until screw head contacts suspension spring holder and continue tightening $\frac{1}{4}$ turn. Check to be sure the new suspension spring will pivot freely on the screw.

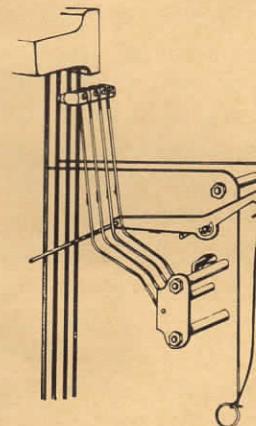
The recommended way of determining the correct amount of tightening is to pivot the spring with one hand while tightening the screw with the other. When you feel the spring bind, stop and loosen thumb screw $\frac{1}{8}$ turn.

IMPORTANT. Please indicate if your movement uses a pin or thumb screw to retain the suspension spring.

WEIGHTS

Occasionally weights may catch on front edge of the case at the bottom of the mid section door. This situation can be corrected by adjusting the front two levelers on the clock so that it is tilted slightly back. This will provide more clearance between the weights and the front edge of the case.

CHIME HAMMER ADJUSTMENT



Chime tone may be affected by the hammers resting on the chime rods or striking these rods off center. The chime hammer arms are of brass and can be easily shaped without harm. Adjust them so that they do not interfere with each other when moving and strike the chime rod squarely in the center. The chime hammers should rest $\frac{1}{8}$ inch away from chime rods when not striking.

CHIME SILENCER

Should you not wish the clock to chime, loop the cord attached to the chime restraining bar to the pin in the right side of the mid-section. (As you face the clock). The cord and ring on the left hand side will silence the Big Ben hour gong.

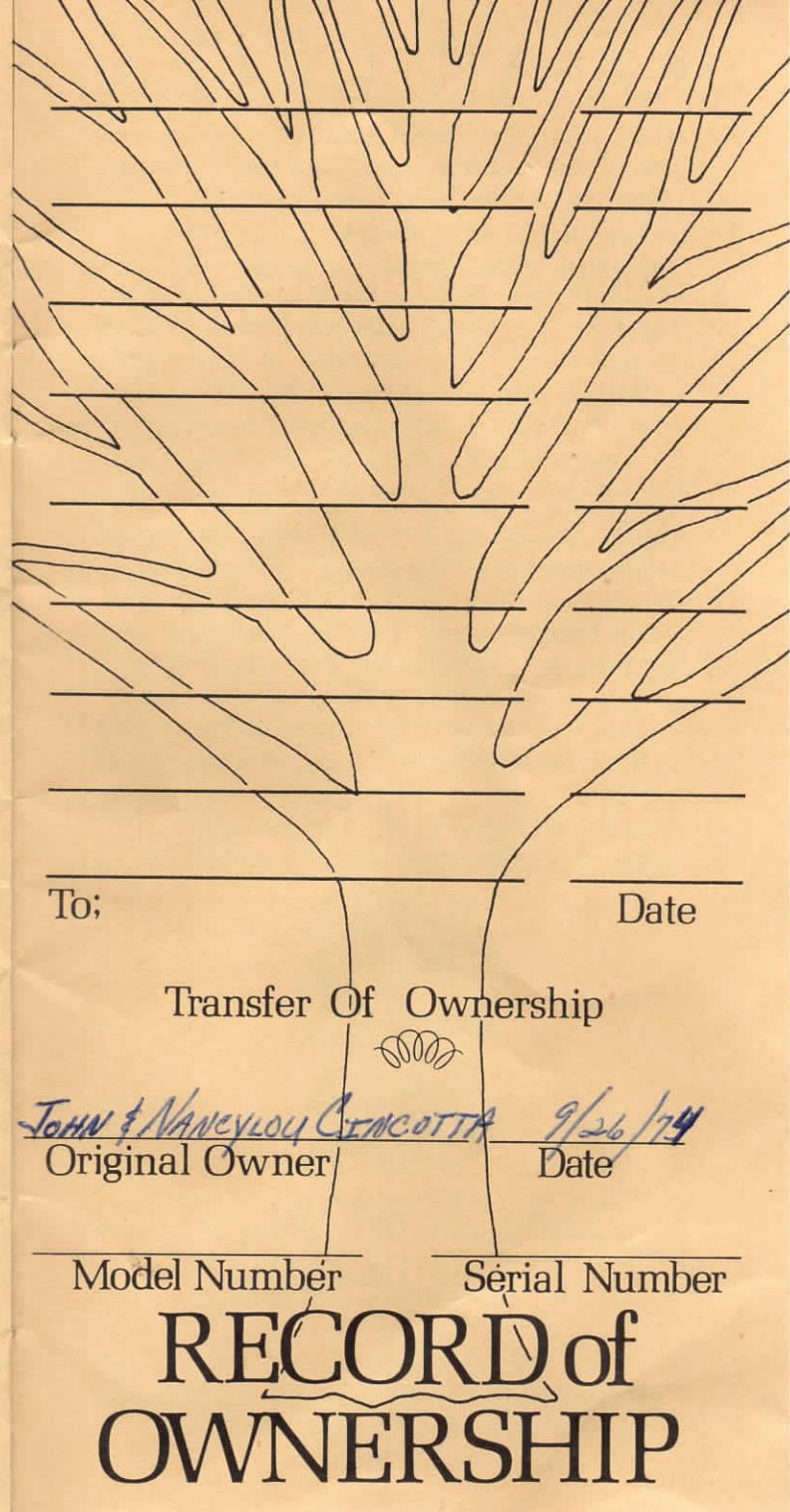
RECORD OF OWNERSHIP

As your clock is passed from generation to generation its value will be enhanced by its history. Be sure to enter this history on this permanent record and keep it with your clock.

YOUR CLOCK'S FINISH AND CARE

We use selected veneers and solids that are chosen on the basis of their quality and grain characteristics. Each cabinet is hand glazed. The glaze is carefully applied and wiped by an expert who knows exactly how to bring out the beauty of the grain in each individual piece of wood. Then each clock is highlighted and accented to further bring out the wood's natural character.

No two finishes are the same. Each finish is developed for a particular wood to enhance its natural characteristics. As with all fine finishes the finish on your Barwick clock requires very little care. Dust periodically with a clean, soft lint-free cloth. Once a year wax lightly with a non-silicone polish. With proper care this finish will be even further enhanced with age.



To: _____ Date: _____

Transfer Of Ownership

John & Nancy Lou Cincotta *9/26/74*
Original Owner Date

Model Number _____ Serial Number _____

**RECORD of
OWNERSHIP**

DIRECTIONS FOR No. 150 WESTMINSTER CHIME

WEIGHT-DRIVEN MOVEMENT

Model # 4890

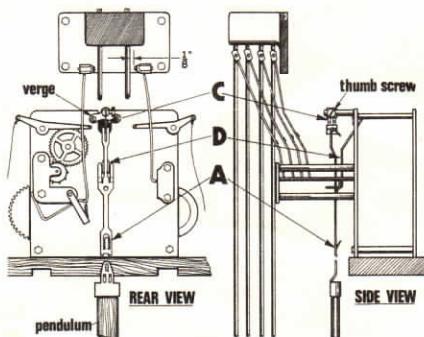
1. Place clock in location it is to occupy. Adjust the four levelers at the bottom of the case so clock is level when viewed from both front and sides. (A level should be used if one is available). The clock must rest firmly on all four levelers.
2. Move clock one-half turn from permanent location, permitting access to front and back.
3. Remove back panel for access to movement. USING EXTREME CARE TO AVOID DAMAGE TO MECHANISM, remove protective cushion from between hammers and chime rods. Remove chime rod holder by releasing and sliding down off rods, and carefully remove spring clip holding pendulum guide (A) in place during shipment. Retain chime rod holder and pendulum guide retainer clip for future shipping use.
4. Remove chains from bag and allow chains to hang freely, being careful not to dislodge chains from drive sprocket wheels.
5. Place pendulum on hook at bottom of pendulum guide (A). Be careful not to bend or break the pendulum suspension spring (C). A replacement suspension spring (C) is available by writing the factory, Attention: Service Department.
6. Remove the three weights from the carton in which they are packed. One is heavier than the other two—hang this weight on the right hand chain as you face the clock from the front. Hang the other two weights on the remaining two chains. Raise weights to their highest position by applying a steady, even pull on the chains. (Do not jerk). Weights must be raised in this manner weekly.
7. Gently swing pendulum to start the clock. If clock does not operate satisfactorily, as evidenced by the failure of the pendulum to remain in continuous swinging motion and movement beat is uneven, remove pendulum and move crutch (D) to right or left beyond its normal swing, until the proper beat is attained. Replace pendulum and back panel.
8. Carefully hold pendulum while turning clock to permanent location, using level to again assure proper position. Gently swing pendulum to start the clock.
9. Set clock on time by moving minute hand backwards (counter clockwise) until minute and hour hands are on correct time. It is not necessary to wait for clock to chime as the minute hand passes each quarter hour when moving minute hand backwards since the movement has a self-correcting device which synchronizes the chimes with the time. After setting the clock on time, should it not chime properly, permit it to operate 24 hours during which time it will correct itself.
10. To regulate clock, hold pendulum disc and turn regulating nut located under disc to left if clock runs fast and to right if clock runs slow. One turn of the nut will regulate timekeeping approximately two minutes a day. Be sure pendulum disc moves downward when regulating nut is turned to the left, and it might be necessary to push the disc downward on the pendulum rod.

NOTE: Striking hammers should be $\frac{1}{8}$ " away from rods when at rest. Chime and strike can be silenced by pulling down cord with brass ring on each side of movement and fastening in taut position. If after 24 hours of operation the clock strikes the wrong hour, count the hour it has just struck, and move the hour hand to that hour. Reset the clock to the correct time by moving the minute hand counter clockwise.

Numbers on
Clock:

0W32/1A

387568



CAUTION: Remove pendulum and weights from clock whenever changing clock location.

Further information can be obtained by writing factory. Attention: Service Department.

* RELEASE CHAINS BY UNWINDING COPPER WIRE FROM WING NUTS AND REMOVE FROM CHAINS UNDER MOVEMENT BOARD

Oct 7
Local Repair John N.
61252-945-4174
(Service, SA)
Over

616-772-9131